

## Iowa Pulse Oximetry Screening for Critical Congenital Heart Disease

### Information for Parents

#### **What is pulse oximetry newborn screening?**

Pulse oximetry newborn screening (also called “pulse ox”) is a test that measures how much oxygen a baby has in their blood. Pulse oximetry is used as part of newborn screening to determine how healthy a baby’s heart and lungs are. Babies who have low oxygen levels (meaning there is not much oxygen in the baby’s blood) may have critical congenital heart disease (also called CCHD).

***It is important for parents to know that pulse oximetry newborn screening cannot identify every baby with CCHD.***

*Most babies who pass the pulse oximetry screen will not have CCHD. However, it is important for parents to know the signs and symptoms of CCHD (blue or dusky color to the skin, fingertips, lips, fast breathing, poor feeding - tires easily during feeding sweating around the head, especially during feeding, or poor weight gain). If you notice any of these signs, please call your baby’s doctor.*

#### **What is critical congenital heart disease (CCHD)?**

Critical congenital heart disease occurs when a baby’s heart does not develop normally. Congenital means a baby is born with the heart problem. There are seven different heart conditions that can be identified with pulse oximetry newborn screening. A baby with one of these heart conditions usually has a low level of oxygen in their blood. All of these heart conditions require some type of treatment (often involving surgery) soon after birth. If a baby has CCHD and does not receive treatment shortly after birth, the baby has a higher chance of other problems, including death.

#### **Why is pulse oximetry used to screen for CCHD?**

Pulse oximetry is used because it is a fast, simple, accurate test that can be used on babies soon after they are born. Without pulse oximetry newborn screening, some babies might go home without being identified. Every baby receives a complete physical examination before they leave the hospital. However, some babies with CCHD are missed because the baby may not have the symptoms of CCHD (such as an abnormal heart rate or an extra sound in the heart beat called a murmur) that can be detected during a physical exam.

#### **How is pulse oximetry for newborn screening done?**

Hospital nursery staff will do the pulse oximetry screening when the baby is at least 24 hours old. The pulse ox screen is done by placing a small sensor (or probe) on the baby’s right hand and left foot. The sensor is a small device hooked up to the pulse oximeter that uses a beam of red light to measure the baby’s oxygen level.

Pulse oximetry newborn screening only takes a few minutes to perform and does not hurt your baby. During the pulse ox screening, your baby will be warm and quiet. If the baby is fussing, crying, moving or cold, the pulse ox screen may take longer. You can help the nursery staff by keeping your baby warm and quiet during the screen.

#### **How will I find out the results of my baby's pulse ox newborn screening?**

Your baby's doctor or a nurse will tell you the results of the pulse oximetry newborn screen.

#### **My baby did not pass the pulse oximetry newborn screen. What does this mean?**

Your baby's pulse ox result showed that the level of oxygen in your baby's blood was low, or that there was a difference of more than 3 percent between the pulse ox reading in your baby's hand and foot.

***It is important for parents to know that there are several reasons why a baby can have low oxygen levels or a 3 percent difference in pulse ox readings between the hand and foot.*** Some babies have respiratory (breathing) problems or infections that can cause low oxygen levels.

Your baby's doctor will perform a complete physical examination to figure out why your baby did not pass the pulse ox screen. Your baby may also receive an echocardiogram (an ultrasound of the heart) to look for CCHD.

#### **Can I refuse to have my baby screened?**

The pulse oximetry screening test is painless and quick; and may save your baby's life. If you choose to not have your baby tested, you should let your baby's doctor and the nurse taking care of your baby know. You may be asked to sign a form stating your refusal.

*For more information about pulse oximetry newborn screening, visit the Iowa Department of Public Health website at [www.idph.state.ia.us/genetics](http://www.idph.state.ia.us/genetics) or CDC at <http://www.cdc.gov/ncbddd/pediatricgenetics/pulse.html>*